

This listing of the claims will replace all prior versions and listings of claims in the application:

LISTING OF THE CLAIMS

Claims 1-64 (Canceled).

Claim 65 (Original): A method for preparing a porous dielectric material, comprising:

- (a) providing synthetic polymer molecules having a plurality of crosslinkable groups that are inert until activated, but which when activated undergo an irreversible intramolecular crosslinking reaction;
- (b) activating the crosslinkable groups under crosslinking conditions, whereby irreversible intramolecular crosslinking of the polymer molecules occurs to form crosslinked particles;
- (c) mixing the crosslinked particles with a host matrix material to form a mixture, wherein the decomposition temperature of the crosslinked particles is less than the decomposition temperature of the host matrix material; and
- (d) heating the mixture to the decomposition temperature of the crosslinked particles, so that the crosslinked particles decompose to create a porous dielectric material.

Claim 66 (Canceled).

Claim 67 (Original): A method for forming an integrated circuit comprising:

- (a) positioning, on a substrate, a layer of a mixture of crosslinked particles having diameters less than about 25 nm and a host matrix material, wherein the decomposition temperature of the crosslinked particles is less than the decomposition temperature of the host matrix material;
- (b) heating the mixture to the decomposition temperature of the crosslinked particles to decompose the crosslinked particles and create a porous dielectric layer;
- (c) lithographically patterning the dielectric layer;
- (d) depositing a metallic film on the patterned dielectric layer; and
- (e) planarizing the film to form an integrated circuit.

Claims 68-73 (Canceled).

Claim 74 (Previously presented): The method of Claim 65 wherein a porous dielectric matrix is produced, said porous dielectric matrix comprising an organic material having closed cell pores whose diameters fall substantially in the range of 2-25 nm.

Claim 75 (Previously presented): The method of Claim 74 wherein said matrix has closed cell pores whose diameters fall substantially in the range of 2-10 nm.

Claim 76 (Previously presented): The method of Claim 74 wherein the organic material is a polyphenylene oligomer or polymer.

Claim 77 (Previously presented): The method of Claim 67 wherein the porous dielectric layer is comprised of an organic material and has closed cell pores whose diameters fall substantially in the range of 2-25 nm.

Claim 78 (Previously presented): The method of Claim 77 wherein the porous dielectric layer has closed cell pores whose diameters fall substantially in the range of 2-10 nm.

Claim 79 (Previously presented): The method of Claim 78 wherein the organic material is a polyphenylene oligomer or polymer.